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EXAMINER

HARPER, V PAUL

ART UNIT

PAPER NUMBER

2626

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/980,365

Applicant(s)

DEMETRESCU ET AL.

Examiner

V. Paul Harper

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-15 and 17-24 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The Examiner has considered the references listed in the Information Disclosure Statement dated 11/29/2001. A copy of the Information Disclosure Statement is attached to this office action.

### ***Preliminary Amendment***

2. The examiner acknowledges the fact the preliminary amendment (submitted on 11/29/2001) is used in the following rejection.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1, 2, 9, 10 and 11 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3, and 4 of U.S. Patent No. 6,987,813, hereinafter referred to as '813. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Limitations of claims 1 and 2 correspond to limitations in claim 1 of '813.

Limitations of claim 9 correspond to limitations in claim 3 of '813.

Limitations of claim 10 correspond to limitations in claim 4 of '813.

Limitations of claim 11 correspond to limitations in claim 4 of '813.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 1 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim states that it is "a method of encoding speech packets" but the body of the claim does not contain any steps. Thus the claim does not particularly point out and distinctly define the metes and bounds of the subject matter that will be protected by the patent grant.

5. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

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regards as the invention. The claim states that it is "each speech frame contains Class I bits and a set of Class II bits" but in the remainder of the claim (or subsequent dependent claims) there is (are) no indication(s) as to the presence of the Class II bits. Thus the claim does not particularly point out and distinctly define the metes and bounds of the subject matter that will be protected by the patent grant.

6. Claim 18 recites the limitation "the convolution code" in line 1. There is insufficient antecedent basis for this limitation.

7. Claim 19 recites the limitation "the up-link of the packet radio network" and "the Class I bits" in line 2. There is insufficient antecedent basis for this limitation.

8. Claim 22 recites the limitation "the Class I bits" in line 1. There is insufficient antecedent basis for this limitation in the claim.

In the following rejections the claim language of the above rejected claims will be interpreted as taught by the applied art.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-5, 7, 10, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Olkkonen et al. (WO 97/37466), hereinafter referred to as Olkkonen.

Regarding **claim 1**, Olkkonen teaches speech transmission in a packet network. Olkkonen teachings include the following (also note: specification p. 2, lines 7-10, indicates the following as prior art):

- a packet switched network a method of encoding speech packets into blocks (pp. 5-8, in particular p. 5, lines 5-11),
- each speech packet including a speech header and a payload comprised of a speech frame (p. 5, lines 5-11, cell contains a header and a payload),
- wherein at least two speech frames are encoded into a single block (p. 5, lines 5-11, frames which comprise several packets).

Regarding **claim 2**, Olkkonen teaches everything claimed, as applied above (see claim 1). In addition, Olkkonen teaches "each speech frame is associated with different users" ( p. 5, lines 10-11, each cell can be directed to different destinations which implies separate conversations).

Regarding **claim 3**, Olkkonen teaches everything claimed, as applied above (see claim 1). In addition, Olkkonen teaches: “each speech frame is associated with the same user” (p. 7, lines 26-30, it is highly likely that a cell sent to the same location will have packets from the same user).

Regarding **claim 4**, Olkkonen teaches everything claimed, as applied above (see claim 3). In addition, Olkkonen teaches “wherein a speech header associated with only one speech frame is encoded” (p. 5, lines 5-12, a cell comprises a header and a payload).

Regarding **claim 5**, Olkkonen teaches everything claimed, as applied above (see claim 1). In addition, Olkkonen teaches “each speech frame is generated by a full-rate encoder” (p. 7, lines 1-3).

Regarding **claim 7**, Olkkonen teaches everything claimed, as applied above (see claim 1). In addition, Olkkonen teaches “each speech frame is generated by a half-rate encoder” (p. 7, lines 3-8).

Regarding **claim 10**, Olkkonen teaches everything claimed, as applied above (see claim 2). In addition, Olkkonen teaches “the speech frames are for transmission on the down-link of a wireless packet switched network” (p. 1, lines 11-14, sent to a radio path which will inherently include up-links and down-links).

Regarding **claim 20**, Olkkonen teaches everything claimed, as applied above (see claim 1). In addition, Olkkonen teaches "in which the single block includes a set of spare bits" (p. 5, lines 31-33, incomplete filling of cells)

Regarding **claim 21**, Olkkonen teaches everything claimed, as applied above (see claim 2). In addition, Olkkonen teaches "the speech frames are for transmission on the up-link of the packet radio network" (p. 1, lines 11-15, radio transmission from a digital telephone which will inherently include up-links).

10. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Christensen et al. (U.S. Patent 5,805,727), hereinafter referred to as Christensen.

Regarding **claim 1**, Christensen discloses a method for transmitting ATM cells on an ATM link. In addition, Christensen teaches the following:

- a packet switched network a method of encoding speech packets into blocks (abstract, such a system can inherently be used for speech transmission),
- each speech packet including a speech header and a payload comprised of a speech frame (col. 1, lines 54-67),
- wherein at least two speech frames are encoded into a single block (col. 1, lines 54-62; e.g. three different sub-blocks, col. 2, lines 46-50, common header; Fig. 5).



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Regarding **claim 2**, Christensen teaches everything claimed, as applied above (see claim 1). In addition, Christensen teaches "each speech frame is associated with different users" ( Figs. 5 and 6; different header associated with different destinations hence different users).

Regarding **claim 3**, Christensen teaches everything claimed, as applied above (see claim 1). In addition, Christensen teaches: "each speech frame is associated with the same user" (Figs. 5 and 6, inherent that there will at least be some frames that this is the case).

Regarding **claim 4**, Christensen teaches everything claimed, as applied above (see claim 3). In addition, Christensen teaches "wherein a speech header associated with only one speech frame is encoded" (abstract; col. 2, lines 47-60; Fig. 5, HEADER).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 8, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olkkonen in view of well known prior art (MPEP 2144.03).

Regarding **claim 8**, Olkkonen teaches everything claimed, as applied above (see claim 7). Olkkonen teaches the encoding of multiple speech packets into blocks, but Olkkonen does not specifically teach “which four speech frames are encoded into a block” However, the examiner takes official notice of the fact that the encoding of four speech frames was well known in the art (and highly likely).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Olkkonen such that four speech blocks can be encoded into a frame, because this is a likely number of packets to occur during encoding into a block.

Regarding **claim 14**, Olkkonen teaches everything claimed, as applied above (see claim 10. But Olkkonen does not specifically teach “the two speech frames are arranged, prior to encoding, such that they are adjacent.” However, the examiner takes official notice of the fact that indicated arrangement of frames was well known in the art.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Olkkonen such that two speech frames are arranged, prior to encoding, such that they are adjacent, because this improves the efficiency of the encoding process.

12. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Olkkonen in view of Brent (U.S. Patent 6,590,876), hereinafter referred to as Brent.

Regarding **claim 9** (note 112 2nd rejection above), Olkkonen teaches everything claimed, as applied above (see claim 2). But Olkkonen does not specifically teach “wherein each speech frame includes a set of Class I bits and a set of Class II bits, the method further comprising: encoding a first speech frame by encoding at least a portion of the header and the set of Class I bits; encoding a second speech frame by encoding at least a portion of the header and the set of Class I bits.” However, the examiner contends that this concept was well known in the art, as taught by Brent.

In the same field of endeavor, Brent discloses a matrix communication method that includes the conversion of encoded speech-frames (abstract, col. 1, lines 10-60; col. 3, line 62 through col. 4, line 7).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Olkkonen by specifically providing the features, as taught by Olkkonen, because it is well known in the art at the time of invention for the purpose of supporting various connectivity paths mobile-to-mobile traffic (col. 1, lines 14-41).

13. Claims 11-13, 15, 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olkkonen in view of Brent and further in view of well known prior art (MPEP 2144.03).

**Regarding claim 11 and 13**, Olkkonen in view of Brent teaches everything claimed, as applied above (see claim 9). Brent teaches the support of various connectivity paths and their protocols, but Brent does not specifically teach “each encoding step comprises encoding two different portions of each header using two different encoding techniques” and “the remainder of the header is encoded using a block code.” However, the examiner takes official notice of the fact that the use of multiple encodings of the header was well known in the art.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Olkkonen in view of Brent to support two different portions of each header, because this is required for compatibility with existing conventions.

**Regarding claim 12**, Olkkonen in view of Brent teaches everything claimed, as applied above (see claim 9). Brent teaches the support of various connectivity paths and their protocols, but Olkkonen does not specifically teach “the Class I bits and a portion of each header are encoded using a convolution code.” However, the examiner takes official notice of the fact that the use of multiple encodings of the header and the Class I bits including the use of convolution code was well known in the art.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Olkkonen in view of Brent to support the various encoding schemes, because this is required for compatibility with existing conventions.

Regarding **claim 15**, Olkkonen teaches everything claimed, as applied above (see claim 10). But Olkkonen does not specifically teach “the two speech frames are arranged, prior to encoding, such that the Class I bits of the two users are adjacent thereby forming a first and second set of sequential Class I bits” (also see the rejection of claim 9 for teachings of Brent covering the encoding). However, the examiner takes official notice of the fact that this technique was well known in the art.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Olkkonen in view of Brent to support the various encoding schemes, because this is required for compatibility with existing conventions.

Regarding **claim 19** (see 112 2<sup>nd</sup> rejections), Olkkonen teaches everything claimed, as applied above (see claim 2). In addition, Olkkonen teaches “the speech frames are for transmission on the up-link of the packet radio network” (p. 1, lines 11-14, sent to a radio path which will inherently include up-links and down-links), but Olkkonen does not specifically teach “wherein the Class I bits and the header are encoded using a convolution code” (also see the rejection of claim 9 for teachings of Brent covering the encoding). However, the examiner takes official notice of the fact that this technique was well known in the art.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Olkkonen in view of Brent to support the

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various encoding schemes, because this is required for compatibility with existing conventions.

Regarding **claim 22** (see 112 2<sup>nd</sup> rejections), this claim has limitations similar to claim 19 and is rejected for the same reasons.

14. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olkkonen in view of Li (U.S. Patent 6,385,752), hereinafter referred to as Li.

Regarding **claim 17 and 18** (see 112 2<sup>nd</sup> rejections), Olkkonen teaches everything claimed, as applied above (see claim 10). But Olkkonen does not specifically teach “the coding step further involves the step of puncturing bits” and “the convolution code for encoding the Class I bits involves puncturing of bits.” However, the examiner contends that this concept was well known in the art, as taught by Li.

In the same field of endeavor, Li discloses a method for puncturing a convolutionally encoded bit stream (abstract, col. 2, lines 1-11).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Olkkonen by specifically providing the features, as taught by Li, because it is well known in the art at the time of invention for the purpose of improved efficiency (Li, col. 1, lines 60-65).

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15. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Olkkonen in view of Li and well known prior art.

Regarding **claim 23**, Olkkonen and well known prior art teaches everything claimed, as applied above (see claim 22). But Olkkonen does not specifically teach “the encoding step further involving the step of puncturing bits.” However, the examiner contends that this concept was well known in the art, as taught by Li.

In the same field of endeavor, Li discloses a method for puncturing a convolutionally encoded bit stream (abstract, col. 2, lines 1-11).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Olkkonen by specifically providing the features, as taught by Li, because it is well known in the art at the time of invention for the purpose of improved efficiency (Li, col. 1, lines 60-65).

16. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Olkkonen in view of Yasuda et al. (“Bit stealing scheme for soft decision Viterbi decoding system” Institute of Electronics and Communication Engineers of Japan, March 1983, Japan [from IDS]), hereinafter referred to as Yasuda.

Regarding **claim 24**, Olkkonen teaches everything claimed, as applied above (see claim 1), but Olkkonen does not specifically teach “the single block additionally

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includes a set of stealing bits.” However, the examiner contends that this concept was well known in the art, as taught by Yasuda.

In the same field of endeavor, Yasuda teaches a bit stealing scheme for transmitting side information (abstract).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Olkkonen by specifically providing the features, as taught by Yasuda, because it is well known in the art at the time of invention for the purpose of supporting an efficient bit-stealing scheme (Yasuda, abstract).

### ***Allowable Subject Matter***

**Claim 16** is objected to as being dependent upon a rejected base claim, but would be allowable (assuming resolution of 112 2<sup>nd</sup> rejections) if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 16, the closest art of record, Olkkonen teaches speech transmission in a packet network, but Olkkonen does not teach that the last  $n$  bits of the first sequential set of Class I bits are removed prior to encoding, wherein the  $n$  bits correspond to  $n$  zero bits provided for an encoder with a constrain length of  $n+1$ .



***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to V. Paul Harper whose telephone number is (571) 272-7605. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

4/14/2006

V. Paul Harper  
Patent Examiner  
Art Unit 2626

A handwritten signature in black ink, appearing to read "V. Paul Harper", is written over the printed name and title.